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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,275	12/06/2001	Gerd Konrad Bayer	DE920000090US1	3365
47049	7590	03/20/2007		
FERENCE & ASSOCIATES 409 BROAD STREET PITTSBURGH, PA 15143			EXAMINER JOO, JOSHUA	
			ART UNIT 2154	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/683,275

Applicant(s)

BAYER ET AL.

Examiner

Joshua Joo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Response to Amendment filed 2/20/2007

1. Claims 1-13 are presented for examination.

Examiner's Note

2. Amendment After Final filed 2/20/2007 has been entered. The rejection under 35 U.S.C. Section 112, second paragraph, set forth in office action dated 12/20/2006, has been withdrawn, and a new final rejection without the rejection under 35 U.S.C. Section 112 is set forth in this office action.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 12, and 13 have been considered but are moot in view of the new ground(s) of rejection. Applicant's amendment has necessitated the new ground(s) of rejection presented in this office action. Applicant argued that:
 4. (1) Amendment After Final presents no new issues of patentability with respect to the independent claims.
5. In response, Examiner respectfully disagrees. Applicant has amended the claims from the previous independent claims that recited, "local memory being associated with the network coupling adapter as a cache memory relative to a system memory of the one or more computing device for storing transmission control information" to pending claims that recite, "local memory being associated with the network coupling adapter as a cache memory for storing transmission control information associated with information stored in a system memory...". The pending claims further specify a relationship of the local memory and the system memory in that transmission control information stored in the local memory

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is associated with information in the system memory, while the previous claims recited that local memory was relative to the system memory.

6. (2) All of the components (communication protocol stack 134, non-volatile memory 123, and working memory 124) are located on the adapter card. The Office's response to Applicant's previously argument overlook and do not even mention the "relative to [the non-local memory]" language. Claim 1 has been now amended a local memory being associated with the network coupling adaptor as a cache memory for storing transmission control information associated with information stored in a system memory of the one or more computing device.

7. In response, in the previous office action dated 12/20/2006 regarding the limitation of "cache memory relative to a system memory", Examiner pointed to figure 1, items 110 and 124, which shows items 110 and 124 in connection. In response to the new amendment, Smith also teaches of a local memory being associated with the network coupling adaptor (Fig. 1. Item 124 on adapter.) as a cache memory for storing transmission control information (Fig. 1; Col. 5, lines 56-61. Communication protocol stack 134 loaded from memory 110 or 114 of server.). The transmission control information is loaded from the memory of the server (memory 110 or 114), and therefore, the transmission control information is associated with information in the memory of the server.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. US Patent #6,801,927 (Smith hereinafter).

10. As per claims 1 and 12, Smith teaches the invention as claimed including a method and network coupling element, characterized by the steps of:

operating a local memory being associated with the network coupling adapter as a cache memory (fig. 1, Item 124 on adapter) for storing transmission control information associated with information stored in a system memory of the one or more computing devices such that transmission control information is cached in the local memory (Fig. 1; Col. 5, lines 56-61. Proxy 132/Protocol stack 134 loaded into memory 124 from memory 110 or 114 of server.), and information other than transmission control information is stored in the system memory (fig. 1. Item 110; Col 5, lines 10-14. Memory 110 contains data and code. Col. 5, lines 27-29. Memory 114 contains data, e.g. html pages, graphic files, etc...).

11. As per claim 3, Smith teaches the method according to claim 1 further comprising the steps of using said transmission control for the processing of queues or queue pairs (Col. 7, lines 4-14; Col. 8, lines 55-67).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 4-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, in view of Pettey et al. US Patent #6,594,712 (Pettey hereinafter).

14. As per claim 2, Smith does not specifically teach of using an InfiniBand Architecture.

Pettey teaches of InfiniBand Architecture (Abstract; Col. 3, lines 1-37).

15. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Smith and Pettey to use an InfiniBand Architecture, which would avoid reduction in usable bandwidth of local bus of the system (Col. 3, lines 20-28).

16. As per claim 4, Smith and Pettey taught teach method according to claim 2. Smith further teaches the method comprising the steps of using said transmission control for the processing of completion queue (Col. 8, lines 55-67).

17. As per claim 5, Smith and Pettey taught the method according to claim 2. Smith further teaches the method comprising the steps of using said transmission control for processing of address translation and protection tables (Col 5, lines 51-62. Inherent because of connections between adapter and server; and adapter and clients.).

18. As per claim 6, Smith and Pettey taught the method according to claim 2. Smith further teaches the method comprising the steps of using said local memory for connecting at least one computer device (i.e. server) to a network (Col 5, lines 51-62. i.e. between adapter and clients).

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19. As per claim 7, Smith and Pettey taught the method according to claim 2. Smith further teaches the method comprising the steps of using said transmission control information for bundled per queue or queue pair (Col. 8, lines 55-67).

20. As per claim 8, Smith and Pettey taught the method according to claim 2. Smith further teaches the method comprising the steps of configuring said cache memory not to discard transmission control information for particular queues after casting-out (Col. 6, line 52- Col. 7, line 15; Col. 8, lines 55-67).

21. As per claim 9, Smith teaches the method comprising the step of writing said transmission control information to the local memory (Col. 5, line 51-62). However, Smith does not specifically teach InfiniBand verb.

Pettey teaches of an InfiniBand Architecture (Abstract; Col. 3, line 1–Col. 4, line 22).

22. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Smith and Pettey to use an InfiniBand architecture, which would provide translation of virtual addresses of multiple different remote nodes for the network (Col. 4, lines 47-54).

23. As per claim 10, Smith and Pettey taught the method according to claim 2. Smith further teaches the method comprising the steps of using said previous steps for connecting a plurality of I/O hardware devices associated with a computing device (Col. 5, line 39 – Col. 6, line 43. Inherent since connections of clients, server and adapter;).

24. As per claim 11, Smith and Pettey taught the method according to claim 2. Smith further teaches the method comprising the steps of using said previous step for providing communication channels for

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interprocess communication between a plurality of process associated with one or more computing devices (Col. 5, line 39 – Col. 6, line 43. Inherent since connections of clients, server and adapter).

25. As per claim 13, Smith teaches the invention as claimed including the network coupling element for coupling one or more computing devices via an associated interconnect memory to an I/O periphery and operates as a Host Channel Adapter or a Target Channel Adapter characterized by hardware and comprising a local memory being operable as a cache memory (fig. 1, Item 124 on adapter), such that transmission control information associated with said interconnect memory of the one or more devices is cached in the local memory (Fig. 1; Col. 5, lines 56-61. Proxy 132/Protocol stack 134 loaded into memory 124 from memory 110 or 114 of server.) and information other than transmission control information is stored in the system memory (fig. 1. Item 110; Col 5, lines 10-14. Memory 110 contains data and code. Col. 5, lines 27-29. Memory 114 contains data, e.g. html pages, graphic files, etc...).

26. Smith does not specifically teach of the network coupling element operating according to an InfiniBand Architecture.

Petty teaches of InfiniBand channel adapter (Abstract; Fig. 2; Abstract; Col. 3, lines 1-37; Col 25, lines 11-26).

27. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Smith and Petty to use the adapter in an InfiniBand Architecture, which would provide translation of virtual addresses of multiple different remote nodes for the network (Col. 4, lines 47-54).

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

29. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Friday 7 to 4.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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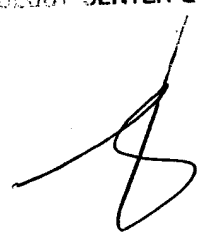
direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

NATHAN J. FLYNN

Patent Examiner

Technology Center 2800



March 9, 2007

JJ